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OFFICE OF THE CHIEF INFORMATION OFFICER

Statement of Joseph Leo
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Before the Subcommittee on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies

Mr. Chairman and members of the Subcommittee, thank you for inviting me to discuss information technology management at USDA. We view this as an opportunity to share with you the progress we are making, the problems that we continue to face, our approach to meeting those challenges, and our vision for the future.

Since I am newly appointed to this position, I want to share with you a little about myself and why I am pleased to serve the Department of Agriculture in this capacity. I am not a computer technology expert. However, I have been intimately involved with USDA and governmentwide initiatives to improve how information technology is used to deliver programs and services at the Federal and State level for most of my career. As the Deputy Administrator for Management for the Food and Nutrition Service --FNS--, I was Chairman of the Oversight Committee for reviewing State-initiated computer system development requests. I was also instrumental in promoting and shaping the direction of Electronic Benefits Transfer --EBT-- systems in the Federal government, especially for the Food Stamp and Women, Infants and Children --WIC-- programs. Most recently, I served as the leader of the Secretary's Administrative Convergence

Implementation Planning Team and was Acting Executive Director of the Support Services Bureau -- SSB.

The Secretary, the Deputy Secretary and I are committed to improving the corporate management of USDA's administrative processes, and especially its information technology resources. Though change is never easy, we are confident that with your support the Department will continue to make progress. The Secretary asked me to serve in this job, and I eagerly accepted the opportunity, because I believe I can enhance USDA's corporate stewardship of the information technology resources that the Congress provides. To that end, last month the Secretary urged the Congress to remove restrictive language from our Appropriations Bill that prevents the Department from implementing the Support Services Bureau. The SSB was designed to combine the administrative functions, including the information technology staffs, of the county-based agencies and enable us to efficiently manage the Common Computing Environment, which I will discuss later.

Ours is a difficult challenge. The Department's history of stove piped agencies creates barriers to the efficient administrative management of its resources that have been well documented. USDA's first CIO, my predecessor, laid the foundation for change. The Office of the Chief Information Officer --OCIO-- is now established and is working in partnership with USDA agencies to improve how we manage information technology. My goal is to continue forging that partnership, and to help OCIO become an enabler of information technology management decisions that maximize the use of the Department's resources and provide more effective and efficient service to farmers, ranchers, and all of our mission area customers. During

the past year, we successfully met the Year 2000 challenge. Now we are focused on the challenges that all institutions face in a dynamic, exciting, and rapidly changing information technology environment and the specific problems that must be overcome at USDA. They include:

- Providing effective leadership and oversight to the Department's Service Center Modernization Initiative;

- Enhancing the security of our financial and information assets and protecting the privacy of our customers;

- Promoting the development of E-government at USDA;

- Improving the management of the Department's telecommunications resources; and

- Strengthening our capital planning and investment control process for all of the Department's information technology --IT-- resources.

USDA's FY 2001 Information Technology Budget Summary

The Department's overall budget request for information technology in FY 2001 totals nearly $1.3 billion in budget authority. This compares to $1.2 billion in budget authority for FY 2000. This amount funds staff, hardware/software purchases and support, contractor services, and

telecommunications and other infrastructure expenditures. Twenty six percent of total IT spending, approximately $350 million, funds matching entitlements which is distributed to states in support of the Food Stamp and the Women, Infants, and Children --WIC-- programs.

For FY 2001, we estimate that approximately one-half of the Department's budget outlays for IT will be devoted to infrastructure and office automation in support of all program mission areas and half will be in direct support of USDA's primary program delivery systems.

Within this $1.3 billion, OCIO's specific budget requests increased funding for three key initiatives: $75 million for the Service Center Initiative to continue installing the Common Computing Environment, an integrated shared information technology infrastructure in the county based agencies; $6.6 million for an IT security initiative to strengthen the Department's capacity to secure its data and financial assets and protect the privacy of its customers; and $2 million to develop and implement a common, corporate wide and more efficient approach to issues that all agencies must address before electronic-government can be fully implemented.

The OCIO also manages the USDA National Information Technology Center --NITC-- headquartered in Kansas City, Missouri. The NITC, with a $50 million budget funded by USDA's Working Capital Fund, provides innovative, cost effective and secure information technology solutions to support the specific missions of USDA's agencies. NITC also provides computer services to the Federal Aviation Administration, the National Weather Service, and other government clients on a reimbursable basis.

Service Center Initiative

The Service Center Modernization Initiative is among the Secretary's highest priorities. This initiative, which includes the Common Computing Environment --CCE--, is a major cornerstone of our modernization and technology improvement efforts in the Department. I am now directly responsible for managing the information technology investments in this initiative, and I will work closely with the NFAC members and the Service Center Modernization team as we go forward.

The scope of this initiative includes the program services of the Farm Service Agency --FSA--, the Natural Resources Conservation Service --NRCS-- and the Rural Development --RD-- Mission Area. These county-based agencies will deliver an estimated $55 billion in farm, conservation and rural development programs and services during fiscal year 2000. These services will be provided through a network of over 5600 county level offices at 2500 co-located sites, and a workforce of 36,000 Federal and FSA county employees working with an additional 14,000 conservation district employees and volunteers.

Over the past few years of hardship for farmers, these county-based agencies have seen dramatic increases in workload and customer demand even as their workforce levels have fallen dramatically --10,100 staff years or 22 percent -- since 1993. The ability of these agencies to provide timely and reliable services is severely taxed. This was made clear during FY 1999 when the Department had to respond to major economic and natural disaster situations affecting the farm community. An aging, obsolete information technology infrastructure has further exacerbated this

situation and prevented the county-based agencies from gaining the efficiencies needed to readily respond to cyclical disaster workloads and meet the needs of 21st century agriculture.

The USDA Service Center Modernization Initiative has made significant progress over the past 3 years in terms of streamlining, consolidating, and co-locating offices, reengineering selected business processes, and beginning the process of modernizing the county-based agencies' technology infrastructure. The county-based agencies have closed about 1,000 field offices, reengineered and piloted new processes, nearly completed a shared telecommunications network, and begun the needed technology improvements by deploying nearly 30,000 modern and fully interchangeable individual computer workstations. However, in terms of technology, much remains to be done to realize the full potential of what a modern shared technology infrastructure can do to improve staff efficiencies and provide better and timelier services to customers.

Much of the county-based agencies' current technology infrastructure is based on mid 1980's to early 1990's technology that was developed within the Astove pipe@ of each agency. Agencies' field staffs cannot yet readily share data electronically or effectively utilize modern business delivery tools such as the Internet. These old systems are also expensive to maintain and depend on technical skills that are becoming obsolete in the general market place. For example, both FSA and RD continue to rely on 14-year-old 3B2 server systems for some of their lending programs. Parts are no longer manufactured for these servers, meaning other servers must be cannibalized for parts. Further, FSA will soon face a crisis, as the manufacturer will cease to support the principal hardware operating software for its field delivery systems on March 31. Maintaining these systems is expensive in terms of Adowntime@ and the effort required by our

scarce technology workforce to keep this equipment running. In FY 2000, the county-based agencies will spend nearly $160 million in personnel and other costs to keep these aging Alegacy systems" operational.

The Common Computing Environment is the critical component of the Service Center Modernization Initiative that will provide a single, integrated and modern technology system for the county-based agencies. The CCE architecture is based on open, interoperable systems that are flexible in terms of being able to respond to changing technologies, programs, staffing, office and organizational structures. Additionally, there is a need for Geographic Information Systems -- GIS -- since many of the business activities of the county-based agencies are associated with land and water characteristics, capabilities, and ownership. There is also a strong emphasis on providing full, secure electronic access to information and services for our customers. This is consistent with the intent of the Congress in "Freedom to E file" legislation that passed in the Senate last year.

The CCE architecture includes modern technology components needed to support the county-based agency programs. Besides the modern interchangeable workstations we have purchased, the architecture will include network/communications servers to fully connect the workstations and manage the network; application servers to host the more complex agency program applications; GIS servers to manage and deliver GIS data; public access servers to provide secure access for the public to information and services; and a variety of other devices such as printers, digital cameras, and portable data accessories. In FY 2000 and 2001, we will make the initial investments needed to connect our legacy system data to our new workstations and

begin to acquire the more expensive server components of the CCE, with the goal of a fully operational system in 2002.

The CCE technology components are being field tested, along with reengineered business processes, in nine field pilot sites. The results observed at these test sites are often more dramatic than we expected and the ways that the field staff are finding to use the new tools go well beyond our expectations. For example, with the use of a new GIS application and the associated hardware, a soil conservationist was able to generate alternative conservation filter strip options for customers in about 15 minutes compared with a time requirement of about four hours without the new tools. This kind of labor savings not only makes more efficient use of staff but also allows us to offer a broader range of alternatives and more timely and professional products to our customers. While not all of the Service Center activities may see this degree of efficiency improvement, it is clear that the new tools and processes will dramatically improve our program delivery capacity and the value of our services to agriculture and rural America.

The CCE, together with reengineered business processes, will maximize data sharing between agencies, increase staff efficiencies and provide many direct customer benefits. For example:

- Customers who have multi-county or State operations will be able to have all of their needs met at one Service Center rather than traveling to several offices.

- Customers will no longer have to provide redundant and duplicative information because the agencies will be able to share a common database. Paper work burdens will be significantly reduced by the elimination, consolidation, and automation of forms and applications, and the reliance on fully integrated information systems across the agencies.

- Customers will be able to remotely access program information, their client specific data, and provide required reports and apply for programs from their homes, offices, public libraries, or any other location with an Internet connection.

- More time can be spent serving customers because of the elimination of duplicative administrative work currently performed by field staff.

- More information sharing partnerships with other agencies, state and local government, academia, and the private sector can be supported and integrated, thus improving quality and reducing the complexity of services to the customer. For example, benefits payments will be processed electronically and deposited directly into customers' accounts.

Achieving these staff and customer benefits requires the CCE infrastructure. Our challenge of maintaining current systems to support program delivery, converting hundreds of agency applications to a new environment, and acquiring the needed CCE hardware and software can not be met unless there is an infusion of capital investment funds to supplement our on-going technology budgets. The $12.6 million provided by the Congress in FY 2000 is a start. The President=s budget request increases this capital investment funding to $75 million in FY 2001.

This funding level is essential in order to move ahead with the investments to ensure that we have a fully operational CCE infrastructure in place during FY 2002 that will support the kind of service delivery that our agricultural and other rural population needs and deserves. Without the additional funds requested, the CCE and resulting customer benefits will not become a reality and the costs and risk associated with maintaining nearly obsolete information technology will continue.

Other funds included within the budgets of the Service Center agencies will continue to support reengineering of business processes, conversion of existing applications, data acquisition to support GIS, and training needed to maximize the benefits of the CCE. These are necessary components of the whole and likewise need continued funding and support. We ask for your support and for the necessary funds to meet our mutually shared objective of providing efficient, reliable, and quality services to this community of customers.

Support Services Bureau

Mr. Chairman, the CCE is critical to modernizing the information technology in the county-based agencies. As the Secretary pointed out in his recent testimony, it is also vitally important that the county-based agencies' administrative structures be reengineered to complement our streamlined, and coordinated, information technology. Each of the three county-based agencies continues to retain separate administrative structures that develop different policies in areas such as information technology, travel, personnel management, procurement, and accounting. This arrangement defies logic and defeats our goal of providing seamless, quality

service to our farmers and rural residents as efficiently and effectively as possible. It also frustrates our customers as the three agencies sort through different policies, guidelines, and procedures to figure out who can do what. The SSB organization would converge three redundant, overlapping agency bureaucracies into one cost-effective, comprehensive administrative services operation. This cannot occur unless the Congress removes the restrictive appropriations language that prevented the Department from implementing the SSB last year.

Consolidating the administrative staffs of the service center agencies will provide significant efficiencies and improvements in services. For example, the SSB organization will eliminate two-thirds of these agencies' existing administrative structures and will immediately consolidate 44 separate administrative divisions in these agencies down to 10. The SSB will not divert program resources to administrative activities; in fact, it is needed because USDA agencies are being asked to provide improved program delivery services with less administrative funding and staff. The SSB is designed to allow agencies to operate efficiently at lower levels of administrative staff and funding. In addition, the consolidation of the information technology staffs of these county-based agencies is a logical and necessary extension of providing a common computing environment and a shared telecommunications network to support their programs. The management and maintenance of these shared systems can only be accomplished effectively with a shared information technology staff.

The Service Center Partnership Council, which is made up of the unions and employee associations representing the Service Center Agency employees, has been fully engaged with us in the modernization initiative and are very supportive of our business process reengineering, change

management, and Common Computing Environment plans. Most of the employee groups on our Labor – Management Administrative Convergence Implementation Team also support establishment of the SSB. Representatives of employees at the field level recognize the importance of a streamlined administrative structure to employees' ability to continue to provide high quality services to our customers, especially with fewer resources. We ask for your support in eliminating the restrictive language and allowing us to move forward with this critical component of our efforts to improve services in the county-based agencies.

Computer (Cyber) Systems Security

Our other major priority is to strengthen cyber-security. Recently publicized attacks on major e-commerce firms in the private sector make it clear that in today's environment no organization is secure from cyber-attacks. USDA must do everything possible to protect the security of the valuable information assets, including financial assets, with which we have been entrusted, while at the same time protecting the privacy of our customers. We appreciate the $500,000 in funding which the Congress made available in the OCIO FY 2000 appropriations to strengthen our program. However, USDA remains much too vulnerable. Though we have begun strengthening our cyber, or information systems, security program and have been able to repel some efforts at intrusion without apparent damage, the Department must act quickly to strengthen our corporate and agency level approach to security and privacy.

Every day, the information that USDA agencies manage affects the financial markets and lives of individuals. The National Finance Center -- NFC -- in New Orleans processes payroll and

administers the Thrift Savings Plan for federal employees. Rural Development's loan portfolio exceeds $100 billion. The data collected by the National Agricultural Statistical Service -- NASS -- is vital to the health of our nation's financial markets. Our systems have personal and financial information on millions of customers and on each of our employees. At the same time, USDA is increasingly using the Internet to provide customers information about programs and services, and, will eventually use it to empower them to transact business with the Department online. With annual payments totaling billions of dollars, we must take prompt and comprehensive action to mitigate what is now an unacceptable high risk of data and potential financial losses.

Our reviews, and those of the GAO and the Office of the Inspector General, indicate that the Department is vulnerable in several key areas:

- The Department needs to strengthen control mechanisms to ensure encryption of sensitive and Privacy Act data transmitted over the Internet.

- Weaknesses have been identified in security at some individual sites, attributed to the need for a more structured security program.

- The Department lacks an effective corporate telecommunications network management and monitoring system.

- Several major Internet access nodes for USDA currently have not installed sufficient firewalls and intrusion detection hardware and software. The Department is acquiring the

necessary equipment to upgrade the highest priority nodes and elevate our intrusion detection capabilities.

We are taking steps to address weaknesses identified by OIG and GAO. In response to concerns about the transmission of unencrypted data over the Internet, the National Information Technology Center -- NITC -- and FNS are testing and implementing encryption software. Departmental regulations are being updated to require that all sensitive data transmitted over open networks be encrypted. We recently chartered the USDA Counter Cyber-Terrorism Policy Council at the senior management level to provide coordination and direction for our responsibilities to prevent terrorist incidents and secure our critical infrastructure. Also, on a daily basis, my staff is engaged in discussions both within USDA and in forums that include the larger federal community to find strategies and solutions that will ensure the reliability and integrity of our information assets.

To lead the Department's cyber-security efforts, we recently established the new position of Associate Chief Information Officer for Cyber-Security and hired a security expert with over 13 years experience focusing on information security at both the Internal Revenue Service and the General Accounting Office. We are pleased to fill this position with someone with the expertise this task requires. Even so, the security disciplines of risk management, infrastructure assessment, incident prevention, and others are highly specialized skills: the reality is that adequate security expertise is still very much in short supply within the Department’s technical staff.

Recognizing this, the FY 2001 budget requests $6.6 million to fund a multi-year USDA-wide cyber-security program, headed by the Associate CIO for Cyber-Security, which is designed to 1) provide an overall corporate cyber-security strategy, and 2) augment existing Departmental and cyber-security activities and coordinate, complement, and strengthen existing agency efforts in the computer systems security arena. The 6-point cyber-security program will encompass the following:

1. **Promote Awareness and Training:** Promote awareness among USDA personnel of the importance of security and their responsibility to protect critical information from cyber-threats. Also, educate selected USDA personnel about existing and new procedures available to actively mitigate risks to information technology assets.

2. **Strengthen Cyber-Security Policies:** Review and enhance the Department's basic cyber-security policies, procedures, and standards in the areas of physical access to hardware, logical access to software, and network security in order to lay the groundwork for developing a solid and consistent baseline for cyber-security practices across each USDA agency.

3. **Establish Corporate and Strengthen Agency Risk Management Programs:** Devise an operational strategy to oversee the self-assessment each USDA agency is currently or will undertake of its own cyber-security program, including onsite monitoring and reviews, to identify vulnerabilities and gaps in existing operations and ensure appropriate mitigation

measures are taken. As technology changes, corporate as well as agency compliance monitoring will be critical to the success of this program.

4. **Collaborate in Designing a USDA Information and Telecommunications Security Architecture**: OCIO shares the responsibility for developing a structured information and telecommunications security architecture with all USDA agencies.

5. **Provide "Best Practice" Assistance:** Provide selected "best practice" advice and assistance to USDA agencies to resolve the most pressing cyber-security lapses and tailor Departmental policies and procedures to reflect new guidance from industry and oversight agencies.

6. **Strengthen Incident Recognition, Reporting, and Response:** Strengthen USDA's cyber-security incident recognition, reporting, and response program using contractor expertise to incorporate knowledge of newly discovered vulnerabilities into agency cyber-security programs; develop a description of key security practices; support agencies in evaluating security incidents; and begin to develop a rapid event response capability.

These initiatives are focused on strengthening information security management at the corporate level. While each agency implements security based on its specific mission needs, funding levels and enabling legislation, the Department will only be as secure as its weakest link. It will do no good for the Department to lock its main doors, shut all of its windows, while leaving the back door open. USDA requires a corporate wide or perimeter approach to security.

While we must strengthen the Department's perimeter, agencies are also deploying a wide range of security mechanisms. The National Finance Center faces challenges with information security, especially as it has introduced client server and web-based applications that move beyond mainframe technology. NFC has organized a team to address network security management issues. To date, the NFC has procured and implemented tools to identify its vulnerabilities -- which are addressed as they are identified --; restricted access to sensitive information; implemented controls to restrict security access to job-related needs; developed and implemented procedures to maintain technical controls; and taken steps to raise awareness among all NFC employees.

The National Agricultural Statistics Service also requires a very high level of information security, which is necessary to maintain agency credibility given the market sensitivity of the reports released to the public and the confidential nature of the data collected from the nation's farmers, ranchers, and agribusiness. In 1998 Lockheed Martin conducted a risk assessment of NASS and recommended that the agency deploy firewalls, encryption devices, and other security options to protect data from compromise or modification due to attacks. These recommendations were consistent with the findings of a 1995 OIG report. The Department's FY 2001 budget requests $1.4 million in funding for NASS to address the technical, managerial, and administrative issues required to strengthen cyber-security in NASS. This computer security architecture is essential to strengthen NASS's internal security while retaining the benefits of a shared network with the Department.

As they develop the capability to widely process transactions online, the county-based agencies, the Agricultural Marketing Service, among others, are also working together to ensure the security of and privacy of customers' information. Firewalls, intrusion detection, and public key infrastructures are being deployed to protect our assets and the public.

Each of these agency specific efforts is important; however, I must reiterate that USDA is only as secure as its weakest link. The plan we have developed will ensure that USDA implements comprehensive security practices, while increasing our ability to materially enhance our security in an environment where the challenges will continue to grow exponentially.

E-Government

Our initiative to strengthen cyber-security is critical today primarily because the Department is increasingly communicating with and will eventually be conducting transactions with our customers over the Internet. Given the rapid adoption of the Internet in conducting business with the private sector, the American people increasingly expect the same level of efficiency when transacting business with USDA and other government agencies.

Under the Government Paperwork Elimination Act, the Department and other Federal agencies must generally provide customers the option to use electronic documents and signatures, and electronic record keeping where practical, by October 2003. The Freedom to E-File Act would require the Department to provide farmers the ability to securely file program applications online. USDA is fully supportive of these initiatives. However, this will represent a fundamental

change in the way USDA agencies deliver programs and services, as well as how we process administrative functions.

At present, many of the forms farmers need to apply for various programs are available online. After the producer fills out the form online, he or she has the option of faxing the completed form into the county office, thereby saving a trip. The funding we have requested for our Service Center Modernization Initiative is critical to put in place the kind of technical infrastructure that is required so that producers can file their applications online. We have much work to do, in terms of security, modernizing our telecommunications and other equipment, reengineering business processes, training our employees, and educating our customers, before farmers and other citizens can conduct their business – whether filing a program application, applying for a grant or loan, or transacting procurements – online.

Realizing this vision is complex, especially when the Internet is still growing and developing. Civilian agencies cannot afford to incur the extraordinary levels of risk as the private sector where many e-businesses will undoubtedly fail. Our challenge is to invest – as prudently as possible – the resources appropriated by Congress in the business processes and information technology that have been proven successful in the private sector. The Department must develop a corporate approach that leverages best practices from the private sector and, where practical, agency initiatives, to effectively implement e-government. In a very limited fashion, we are currently examining these issues from a Departmental perspective with existing resources.

Our FY 2001 budget requests $2 million for e-government. This funding will enable the Department to develop a coordinated strategy and ensure that cross-cutting issues which affect all USDA customers and employees are identified, prioritized and addressed as agencies pursue e-government initiatives. OCIO needs contract support to:

- Develop a Department-wide strategy and standards, and determine baselines and performance metrics, as required by Presidential Memorandum, to move towards a digital department;

- Identify innovative e-government and e-business applications within the private sector and other federal agencies, and share best practices with USDA agencies, focusing on mitigating risks.

- Ensure that USDA's e-government initiatives meet customer needs through outreach and other customer assessment initiatives;

- Analyze e-government applications within USDA agencies, determine where possible linkages exist, and, where practical, leverage successes across the Department;

- Improve coordination and develop standardized approaches to cross-cutting issues, including: use of the Internet, intranet, and extranet, data warehousing, data mining, electronic mail and other electronic directories, online forms, privacy, and training our IT staff to integrate web-based applications into the Department's technical infrastructure.

USDA agencies have a number of e-government related initiatives in process. Most are at the initial stage of e-government where agencies are using the Internet to provide the public electronic access to information about the Department's programs and services, market information, as well as breaking news. For example:

The **Natural Resources Conservation Service's** -- **NRCS** -- PLANTs website provides a single source of standardized information about plants in the US and its territories. The database includes all sorts of information about plants, and is accessed by over 57,000 users per month.

The **Rural Development** agencies provide data over their web sites about all of their housing, infrastructure and job creating programs, as well as links to other sites of interest to the rural development community. Almost a million citizens viewed these web sites in 1999.

Visitors to the web site of the **Risk Management Agency --RMA--,** which manages Federal crop insurance, can access and search county actuarial tables online, by State or crop. There is also an education site to assist producers and agribusiness in understanding their risk exposure and responsibility.

Another example is USDA's **Forest Service --FS--**, which is participating in a one-stop recreation site with seven other Federal agencies. The site -- www.recreation.gov -- is part of the Vice-President's Access America initiative that was established to provide a single source of information about recreation on federal lands. Citizens can now reserve campground sites via the

Internet. FS is also piloting a clearinghouse on the Internet for distributing information related to Forest Plan updates. The clearinghouse application allows the public to view information generated from the FS' Geographical Information System (GIS) and relate their comments on the plan to specific locations on a GIS map.

The **Agricultural Research Service -- ARS --** web sites provide Internet access to extensive resources for scientists, regulators, farmers and many other customers. ARS laboratories use the Internet to provide information about their missions, research programs, results, and analyses. Technical and semi-technical publications produced in-house are published electronically; and customers may now subscribe to the *Agricultural Research* magazine online. Some 1500 stakeholders, including media outlets, commodity groups, educators, and others, have also signed up for a daily e-mail feed. An interactive web site for middle school students, "Science for Kids," showcases ARS research results in ways that demonstrate the importance of agriculture in people's everyday lives and help students understand and appreciate the benefits of agricultural research.

The **National Agricultural Library --NAL --** is also providing increased electronic access to its unparalleled storehouse of agriculture related information and to improve the services it provides. NAL maintains the Agriculture Online Access bibliographic database of more than 3 million citations to the literature of agriculture and related physical and social science subjects. NAL is also working in partnership with land-grant universities and other institutions through the establishment of the Agriculture Network Information Center -- AGNIC -- that serves as a major focal point on the Internet for access to quality information, subject area experts, and other

resources. Funding is needed for new technology to improve search systems that operate across multiple institutions and to expand the scope of these initiatives.

The Department's main "home page" --**www.usda.gov**-- has also recently been redesigned to provide visitors with information about critical Departmental issues and Secretarial initiatives, regardless of which agency or mission area they relate to. The homepage provides links to pages developed and maintained by USDA's agencies. However, one major concern, which again reflects the Department's stove piped nature, is that customers cannot easily look up information about USDA based on the subject of interest. As the pages are currently displayed, most information is organized by agency. A farmer who wants to know about a specific commodity, for example, would have to know which agencies -and there could be several- are most likely to have the information, and pursue it separately. Our e-government vision includes eventually providing customers a "portal," a main web site, similar to major private sector sites such as Yahoo.com, that will be organized by subjects, so that visitors can find the information they want regardless of which agencies might possess it.

The Internet now makes it possible for the Department to provide real time information to the public about issues critical to their health and welfare. USDA's broadcast facilities, managed by the **Office of Communications**, provide a wealth of information to farmers daily through radio and satellite transmissions. Daily and weekly radio and news reports supply information about sign ups for farm programs; announce results of agricultural research; broadcast major policy changes; provide consumer news on food prices, nutrition, conservation, and the environment; and report vital economic news about crop prices and supplies, as well as crop weather conditions.

However, the broadcast industry is moving quickly to digital standards that our existing equipment cannot meet. The Department must update its broadcast equipment so that information can be provided in digital formats that meet standards for digital and audio quality. The improvements we propose in the FY 2001 budget request will provide rural radio stations increased flexibility and speed in selecting and using the messages they wish to record and use; save them telephone time and money; and allow the Department to operate this function with a streamlined staff. Our goal is to use the Internet to allow farmers, constituency groups, and the public to take full advantage of the programs, services, and data at USDA. This means that we must invest in the kinds of high-speed computers and telecommunications equipment necessary to handle the voluminous files required to electronically disseminate video, photographs, radio, and television messages in digital formats.

Increasingly, USDA agencies are working with State and local partners, and other agencies, to develop applications that utilize the Internet to actually conduct e-business. Agencies are trying to meet the demands of their customers by moving beyond simply providing the public access to information via the Internet to implementing more advanced applications to conduct secure transactions online. Processes, from applying for grants to procuring products and services, are being web enabled. For example:

The **Food and Nutrition Service**, which is in the forefront of e-government through its highly successful Electronic Benefits Transfer --EBT-- initiative, has plans to use the Internet to share information with its state partners; provide authorized users online access to information to

help reduce fraud; and collect information directly from retailers who support the WIC program. FNS has also begun planning for an extranet environment that will allow entry to only users who have direct business with FNS. FNS currently uses an Electronic Data Interchange -- EDI -- system in its food distribution division that enables customers to process some 80 percent of the orders for the school lunch program. Of course, all of these applications are being developed with security and privacy as key components.

CSREES is a participant in the Inter-Agency Electronic Grants Committee (IAEGC) in the development of standard processes, standard Federal data sets, and the design of a "portal" to Federal grants activities known as the Federal Commons. The portal will allow citizens and institutions to track the status of federal grant proposals online throughout the entire grants life cycle. When it is completed, constituents will be able to apply for grants electronically as well as receive award notices online. This kind of interagency initiative is key to government's ability to provide citizens with the kind of common interfaces to government they are demanding; however these projects are expensive and they depend upon means being found to support interagency funding that have yet to be developed. CSREES has actually been using electronic mail to send acknowledgement of proposal receipts for the past year, reducing turn around time by weeks from the normal paper intensive process. However, much more work must be done before citizens can actually submit their proposals online.

The **Farm Services Agency** has already implemented an award winning e-business application – the Electronic Bid Entry System - that automates the bid entry portion of USDA's procurement of commodities that are exported under foreign food aid programs. With this system,

bids for some $1.2 billion in food for farm aid can be opened and contracts awarded in two hours. Plus, up to the minute market prices improve competition, so that more people can be fed for each dollar in aid. More recently, FSA has developed a system which allows steamship lines to use the Internet to input bid data. Yet another e-business application allows FSA to issue payment statements to vendors via e-mail, with estimated savings to vendors of almost $200,000 per year as a result.

In 1997, USDA's **Agricultural Marketing Service --AMS --** became the first Federal agency to actually use the Internet in the rule-making process by posting proposed rules for the National Organic Program, which sets standards for organic produce, for comment on its web site. As a result, the agency reported receiving over five times the usual number of comments on the proposed rule. AMS is now focused on educating employees and managers about potential e-business opportunities; establishing a viable Internet infrastructure which is 80 percent complete; providing adequate security for that infrastructure; training staff; and providing training to secure expert web building support to all AMS users.

Rural Development --RD-- agencies are developing web-based applications to allow more efficient operation of multi-family housing programs. Over 10,000 changes to tenant certifications, such as changes in income, etc, are received each month from borrowers. RD plans to enable those borrowers to transmit this information electronically or to enter data directly via a web page. Borrower and lender changes for RD and FSA guaranteed programs are now accepted via Intranet, and all RD community program reporting is now available through the web.

Departmental Administration is also developing e-business in the area of procurement. Our FY 2001 IT portfolio includes piloting an Integrated Acquisition System --IAS -- that would allow the Department to electronically post requirements and receive vendor responses while also automating support of other purchasing and contracting activities. The IAS will interface with the Department's Foundation Financial Information System --FFIS-- and complement the efforts of our redesigned purchase card management program. This key e-business initiative would allow USDA to procure much of the $3.5 billion annually in products and services using modern automated procurement tools; greatly streamlining the current paper intensive process; and allow the Department to eventually phase out legacy systems and their attendant costs.

USDA agencies are currently developing these new applications in an environment where literally "a thousand flowers are blooming." The host of web sites run by USDA agencies are supported by scores of servers, and other technology, which is decentralized and often redundant across agencies and even at the state and regional level. Web enabled applications are being developed often without adequate consideration of the impact on the Department's telecommunications network; and in an environment where we cannot effectively leverage each agency's initiatives across the Department. Solutions and best practices, which might be implemented across agencies, are not being shared - nor are lessons learned.

The Department must act quickly and decisively to develop a corporate strategy for e-government to ensure that we maximize the resources that are being devoted to this effort. The funds we have requested will allow OCIO, in conjunction with USDA agencies, to develop a

coordinated approach to e-government with an emphasis on sharing lessons and leveraging solutions across USDA.

Digital Divide

As we move forward, USDA must also work to help close the "digital divide." Before our vision of e-government can be realized, America's farmers, agricultural producers, rural residents, and other USDA customers must have Internet access. The Internet is increasingly a driving force behind our economic prosperity. Unfortunately, it is also a dividing force behind the growing digital and economic divide between rural and urban communities. USDA is uniquely capable of helping to close the digital divide in rural America and addressing this issue is also a part of our strategy for e-government. For example:

- Over the past six years, the **Rural Utilities Service --RUS--** has financed $1.2 billion in fiber optic facilities and $790 million in digital switching systems and enhanced feature software;
- Since 1993, RUS has funded 306 distance learning and telemedicine projects in 44 States and 2 territories, totaling $83 million;
- USDA sponsored 4-H Technology Leadership Teams are helping thousands of adults learn how to use the Internet; and
- In FY 1999, USDA donated some $1.9 million in information technology equipment to needy schools and non-profit organizations.

Still, approximately 6 percent of Americans, many of whom live within Tribal communities and rural areas, are today without telephone service of any kind; millions more have unreliable service or service that will not support features required to access the Internet.

To better share information and target the many efforts across USDA to bridge the digital divide, the Secretary has formed a USDA working group to focus on this issue. Deputy CIO Ira Hobbs is leading my office's participation in this effort, which is exploring what USDA can do to help provide rural America with the four "C's" necessary to fully participate in the Internet: computers, connectivity, competency, and content.

Enterprise Network Initiative

The diverse set of programs that USDA supports require substantial telecommunications resources. The Service Center modernization efforts, as well as the e-government initiatives already described, are also rapidly creating additional requirements for the increased bandwidth services and telecommunications equipment necessary to operate effectively in an online environment.

The Department's telecommunications networks can be compared to the Nation's highway system. Many local and State roads and highways feed into the Interstate system – an enterprise network of sorts that allows high volume traffic to flow across the country. The enterprise telecommunications backbone consists of a corporate network (interstate highway) with feeder

networks (primary and secondary roads) managed at the agency level. Our vision is to develop a modern and efficient enterprise/corporate network.

The General Accounting Office and the Congress have documented the missed opportunities to save millions of dollars with respect to telecommunications at USDA. We are working hard to improve our performance in this area. For example, we have made progress in correcting deficiencies raised in previous GAO audit reports. To ensure that telecommunications services and leased telecommunications equipment are terminated upon office closures, a checklist to be used when closing offices was provided to the agencies. Steps have also been taken to eliminate redundant, uneconomical or unused services and equipment. In response to another GAO recommendation, we have developed a plan to establish a telephone fraud incident reporting mechanism between the long distance exchange carriers and USDA's System Network Control Center --SNCC -- in Kansas City, MO. We are also taking advantage of every opportunity during the current FTS2001 transition to improve our performance in this area.

Even so, fundamental changes are required to improve our stewardship of USDA's telecommunications resources. The Department has long recognized that a corporate or enterprise network is necessary to support consolidated telecommunications operations; provide interoperability for interagency communications and data exchange among agencies and programs; and enhance program delivery and eliminate redundant services, facilities, resources, and operations. Most importantly, an enterprise network is also an integral component of our efforts to strengthen cyber-security.

Simply stated, the USDA enterprise network solution makes good business sense. With mergers occurring throughout the telecommunications industry, often resulting in reduced unit costs for telecommunications services, an enterprise network will enable USDA to leverage the apparent successes documented by our industry partners and take advantage of these reductions. The aggregation of telecommunications services and equipment from a corporate perspective can also significantly reduce the unit costs that are incurred by individual agencies by allowing the Department to take advantage of the economies-of-scale that exist. The bottom line is improved USDA program delivery.

Our Telecommunications Services and Operations --OCIO-TSO -- organization, which is being led by a very capable Associate CIO for Telecommunications who joined the Department last year, has been actively engaged in the process of identifying agency business requirements and redefining the architecture of an enterprise network. This process has included ongoing dialogues with Deputy Under Secretaries, agency program managers, as well as agency Chief Information Officers to ensure that programmatic and IT issues are identified early on in the planning phase.

Strengthening Information Technology Management

A critical component of our ability to improve the corporate management of USDA's information technology resources is our ongoing effort to utilize capital planning and investment controls, build our architecture, and implement other aspects of the Clinger-Cohen Act. These will continue to be high priority activities for us in FY 2001.

The Capital Planning Investment and Control --CPIC -- process is key to our capacity to strengthen the corporate management of the Department's IT resources. The goal of CPIC is to help agencies better plan for, acquire, and implement information systems to improve their operating performance. CPIC permits the Department to make more informed and intelligent investment decisions regarding capital acquisitions.

The Executive Information Technology Investment Review Board, which is chaired by the Deputy Secretary, reviews, monitors and approves the Department-wide information technology investments in support of USDA business objectives. In addition to the Deputy Secretary, the members of the EITIRB include the CIO, the Deputy CIO, the CFO, the Director of the Office of Budget and Program Analysis, the Inspector General, the General Counsel, and Under/Assistant Secretaries.

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This year, for the first time, the EITIRB members asked the Deputy Under and Assistant Secretaries to form an EIRTB advisory working group to review USDA's major IT investment portfolio and make recommendations to EITRB members. The working group has reviewed proposed IT investments based on Clinger-Cohen Act criteria, including support of mission, investment risk, expected return on investment, and for investments underway, actual performance versus planned performance.

The Secretary has also appointed an Administrative/Financial Systems Executive Committee, which is headed by the Chief Financial Officer, to focus specifically on strengthening the corporate management of the Department's administrative and financial systems, including

accounting, budget execution, procurement, property, human resources, and travel. We are acutely aware that program managers, policy officials, members of Congress and other stakeholders need better and timelier information to support essential program management and financial decisions. Better information is also required for the Department to comply with the Government Performance and Results Act --GPRA-- and other requirements. The Secretary has charged the CFO, the Assistant Secretary for Administration, myself, and other officials to establish Department-wide priorities on how to get this accomplished.

These initiatives will ensure that the EITIRB has received sufficient input from the administrative and program communities as it makes recommendations about USDA's vast IT investment portfolio. Some of the major systems in the portfolio are:

- The Programs Funding Control System --PFCS-- will provide **FSA and Rural Development** agencies the ability to manage and control program funds based on restrictions mandated by Congress. This system will provide timely and accurate funds control data to the Farm Services Agency and Rural Development budget, program, finance and field office staffs.

- The Guaranteed Loan System --GLS-- supports guaranteed loan business activity in **RD** and the **Farm Service Agency** by providing timely and accurate status information. This will give managers the information they need to effectively manage these programs; help achieve reductions in non-performing loans, reduce risks in credit programs; and achieve annual costs avoidance of $250,000 through reduced postage and mailing costs.

- The Community and Utility Business System will modernize the **Rural Utilities Service's** loan servicing program, provide RUS with state of the art automation capabilities, and replace stovepiped legacy systems with a fully integrated modern online system, allowing the sharing of data with external systems in a more efficient manner.

- The Processed Commodities Inventory Management System --PCIMS-- is used to plan, procure, order, allocate, distribute, track and account for processed commodities to program recipients for **FSA, FNS, and AMS**, integrating data and business functions across three agencies.

- The Integrated Systems Acquisition Project --ISAP-- is a strategic initiative designed to replace aging, obsolete, and non-integrated platforms with integrated hardware and software across **APHIS**. ISAP will facilitate epidemiology studies across large geographic areas in timeframe that will enhance the ability to track, predict, and prevent serous outbreaks of diseases.

- Field Automation and Information Management --FAIM--, the **Food Safety and Inspection Service's --FSIS--** main initiative, is designed to integrate agency-wide information management and data sharing and extend modern information handling capabilities down to the in-plant inspector level.

- The Multi-Family Integrated System --MFIS-- supports the **Rural Housing Services'** Multi-Family Housing program by providing timely and accurate information on the management of multi-family housing projects. This system will provide agency management with access to information on the financial and management status of over 18,000 housing projects and 450,000 low income and senior citizen families reducing the opportunity for fraud, waste, and abuse.

- The Foundation Financial Information System --FFIS-- will provide timely and accurate financial information to support better program management, legislative proposals, and other Departmental initiatives; and help USDA achieve an unqualified opinion on its financial statements while conforming to requirements of the Federal Financial Manager's Integrity Act. The **Forest Service** and **FSIS**, representing 46 percent of USDA's workforce, successfully implemented this system at the beginning of FY 2000. Consequently, the Secretary has accelerated deployment this year to include **RD, FSA, NRCS and the Animal and Plant Health Inspection Service.**

These and other key IT investments are major components of USDA's IT investment portfolio. The Executive Information Technology Investment Review Board's review will ensure that each of these investments are fully aligned with the Department's business processes and architecture, and that their corporate impacts have been fully considered. The direct participation of senior officials in USDA's IT investment process is recognized within the agencies and has led to much greater attention to details as agencies analyze investment alternatives.

USDA Architecture

We are also continuing our efforts to develop USDA's Information Systems Technology Architecture --ISTA. The architecture has been used successfully in the development of core business processes for each mission area, establishment of the applications baseline for the Y2K initiative, development of the proposed enterprise telecommunications network, and creation of the baseline architecture for use by the Service Center Initiative and the Common Computing Environment. In addition, the architecture processes have been integrated with the Capital Planning and Investment Control Process.

In the course of developing and utilizing our architecture, we have:

- Identified core business processes for each mission area/agency;

- Developed a future architecture direction that focuses on a corporate approach for shared information and applications and recognizes the movement towards e-government;

- Developed architecture management processes to guide future architecture development efforts; and

- Begun integrating the IT Capital Planning and Investment Control and architecture processes: agency IT budgets and investments are being analyzed for compliance with the architecture.

To further these initiatives, our current plan includes: publishing the updated and expanded version of the USDA ISTA in both paper and electronic forms; continuing partnerships with and outreach to agencies regarding education and awareness of architecture principles, standards, processes, and future architecture direction; and identifying areas for increased collaboration to reduce redundant information systems. We will also continue to focus on implementing the ISTA Governance Framework. This includes establishing the groups who will oversee and operate specific architecture processes.

Workforce Planning

The Clinger-Cohen Act requires that executives, managers, and staff be trained in information resources management --IRM. Ensuring that USDA's program and IT staffs possess the skills necessary to effectively deliver programs and services with information technology is another priority for OCIO and, increasingly, for USDA's human resources community as well. We also face the challenge of competing with the private sector to recruit and retain skilled IT professionals. To this end, we are working to implement a professional development strategy that includes the recruitment and retention of IT professionals across the Department. The Office of the Chief Information Officer is partnering with the Office of Human Resources Management – OHRM -- and with USDA agencies to carry out these efforts.

The average age of USDA's current IT workforce is 46 and the average length of service is 18 years. It is clear that our very experienced IT workforce is nearing retirement age in large numbers. OCIO's IT workforce improvement effort must address this situation.

Our efforts to address this issue includes supporting the OPM initiative to revise the way the Government structures and defines IT work by participating in an OPM-led pilot on proposed specialty titles and competencies for IT positions. Our IT Workforce Planning and Development working group is focusing on major hurdles identified by the agencies such as pay differentials between government and private industry; the need for stronger IT management by IT and non-IT managers throughout the Department; more IT training opportunities within the Department; the need for a more thorough exit interview process; institution of retention bonuses such as transport incentives; and the need for closer IT-HR collaboration in order to improve the recruitment and retention of IT personnel. The working group also plans to collaborate with the agencies in ensuring that the Federal IT core competencies are used by IT managers in recruiting, evaluating and developing the skills of IT employees.

On a Government-wide level, USDA remains a committed player in the effort to improve the Federal IT workforce through its active role on the CIO Council's IT Workforce Challenge Committee. USDA Deputy CIO Ira Hobbs serves as the co-chair of this committee. The Committee is currently reviewing of the significance of pay as a critical factor in the recruitment and retention of IT professionals.

As we have discussed earlier with reference to cyber-security, the ability to effectively recruit and retain skilled IT professionals is absolutely critical if we are to effectively use information technology to deliver programs and services to the American people. For that reason, my office will continue to focus attention on these issues.

Y2K

The Department's capacity to work together as a corporate entity and produce results was demonstrated most effectively through our successful efforts to prepare for the millennium rollover. USDA was able to successfully manage the millennium rollover, as well as the most recent "Leap Year" conversion, at the corporate and individual agency levels. The Office of the Chief Information Officer established an effective partnership with each mission area and agency, providing leadership, guidance, and technical assistance, while ensuring standardization, through each phase of the Year 2000 remediation and reporting process. Significantly, an effective partnership was established between the Department's information technology community and program leaders.

The Secretary ensured that program officials were fully accountable for our Year 2000 effort; consequently, program managers are now much more attuned to the critical role that information technology plays in support of program delivery. Because of our collective efforts, as the Year 2000 began, USDA agencies reported that 100 percent of mission critical and non-mission critical systems continued to operate normally, as did all USDA occupied buildings and

facilities, high impact programs, telecommunications, and laboratory and scientific systems. There was no impact whatsoever on the Department's ability to deliver critical programs and services to the American people.

Of course, meeting the Year 2000 challenge was expensive. Between fiscal years 1996 – 2000, USDA spent some $188 million on various aspects of Year 2000 remediation. Appropriations were used for hardware and software upgrades and replacements, renovation, validation and implementation of systems undergoing repair, and technical assistance. Of the $183 million, some $57 million was in emergency supplemental funding for Year 2000 conversion.

We believe this money was well spent. The Year 2000 effort left the Department much better positioned to meet all of the challenges that we face. It is a positive example of the kind of results that occur when the CIO's office acts in concert with USDA agencies, and of course our oversight bodies, to ensure that our goals are clearly defined and achieved.

Conclusion

The Department of Agriculture faces critical challenges as it transitions into this new era of e-government. The Service Center Modernization Initiative, which will bring USDA's county offices into the 21st century, vastly improve the efficiency of our programs and services, and reduce the burden on our customers is clearly among the Department's highest information technology priorities. The Common Computing Environment and Support Services Bureau are both keys to effectively modernizing the services we deliver to farmers, ranchers, and other customers of our county-based agencies.

Maintaining the security of our data and financial assets and protecting the privacy of our customers is also among our highest priorities. We must act quickly to strengthen our security perimeter while ensuring that each USDA agency is in compliance with the Department's security policies. We are also continuing to strengthen the corporate management of our telecommunications networks, improving the capital planning investment and control process and implementing other Clinger-Cohen requirements.

At the same time, USDA agencies are making progress in using the Internet across the Department to provide the public with much more convenient and cost effective access to the information, programs, and services that we provide. E-business is beginning to occur, but there is much more work to be done: the Department requires a corporate strategy to ensure that we address all of the crosscutting issues that affect all of the Department's customers and employees.

We are working hard to overcome the barriers to efficiency that have hampered us in the past and to transition USDA into the future. With the continued support of the Congress, we are confident that we can succeed.